

# Arizona Potato Collecting Trip Report, 2003

## TRIP LOG

Participants: John Bamberg and son Paul, Charles Fernandez of USPG.

### Thursday, Sept 18<sup>th</sup>

Fernandez picks up Bamberg 4:30 PM for drive to Milwaukee for Midwest Express 811 direct, 10PM flight to Las Vegas, NV. Rent National SUV, Toyota 4-Runner, lodge Motel 6 Tropicana (\$40).

### Friday, Sept 19<sup>th</sup>

Up 6 AM local and SE from Las Vegas to Boulder City near Hoover Dam for breakfast at "Bob's" ("Best restaurant by a dam site"). Then SE on 93 to Kingman, AZ. Get water and snack at gas station and from SE corner of town to Hualapai Mountain Road (CR 147) to Hualapai Mountain Park (Mohave Co Parks Dept). Road only goes to camping area, then trails. No previous potatoes have been found here, but of interest due to name of trail (Potato Patch) and elevation (trail is ca. 7500 ft). Hiked 6-8 miles around Potato Patch loop and about ¾ mile up service road toward Hualapai Peak. Looked very likely in some places, especially near the Boy scout camp and around the pond and valleys/creeks nearby with cottonwoods and grasses. Hiker guessed that name of the place due to large round boulders looking like huge potatoes. Return of Potato Patch loop (eastern side) had black moist soil with many herbs, some Solana and looked most likely.

Return toward Kingman and take shortcut CR 259 NE to 40. Supper at Iron Skillet W of Seligman. Quick reconnoiter of Anvil Rock road (exit 109) to Squaw Peak. JP scrub habitat looked good at about 5700 ft. So proceed E to nearby Seligman (exit 121) to lodge at Historic Rt 66 motel (ca. \$60, Burl Ives slept in this room). Recharge batteries of camera, laptop and radios.

### Saturday, Sept 20<sup>th</sup>

Up at daybreak to discover AZ still actually is 2 hrs ahead of WI like NV, not one, due to DST. Breakfast at Lilo's West Side Café. W on 40 back to exit 109. At junction of Anvil Rock Rd (gravel) and gravel road to Squaw Peak (N35° 12.24' x W113° 4.64'). JP scrub sandy habit. Acceptably moist and about 5700 ft looked promising. Continue to top of Squaw Peak (6600 ft). Very rocky and dry, but some more moist spots with herbs (Solana,

sunflower, *Chenopodium*) around extensive radio tower installations. Near radio towers noted patch of Juniper trunks nearly covered with millions of ladybugs. This site never previously reported but of interest due to distance from known collections and appropriate elevation.

Back to 40 and to Williams and Davenport Lake.

**BF 111.** *S. jamesii*. September 20, 2003. United States. Arizona. Coconino County. E on 40 from Williams, on Deer Farm Road along N shore of Davenport Lake. Many clusters of plants, mostly small, yellow or dried-up plants among rabbit brush all along roadway in dry lakebed with no flowers to 6 inches tall. One small fruit observed. Collected one tuber from each of many widely-spaced clumps of plants.  $35^{\circ} 16.0' \times 112^{\circ} 04.4'$  and 6950 ft. Site of BKPF 80, germplasm collected Aug 1999 and herb spec by Lemmon and Lemmon s.n., Aug 1884 [UC].

Return W on 40 to 64 and about 2 miles N to Kaibab Lake. Some areas looked likely with Ponderosas and various herbs. No previous potatoes had been reported from here but searched because of expected similar conditions to Davenport Lake site (separated by only about 5 miles).

To Williams for gas and lunch at "Jack in the Box". E to NE of Flagstaff on 180/89 and SE side of Mt. Elden.

**BF 112.** *S. jamesii*. September 20, 2003. United States. Arizona. Coconino County. NE side of Flagstaff on SE side of Mt Elden at trailhead to Mt Elden lookout. Coconino National Forest. One plant under Ponderosas near parking lot. Otherwise a few clusters of plants in 4-5 separate spots noted beside the trail to about 7600ft. Large to 10" but mostly smaller and yellowed. No fruit. Collected a few tubers from each group of plants. Black, moist soil in grass or hiding among rocks. No flowers or fruit.  $N35^{\circ} 13.80' \times W111^{\circ} 34.85'$  at 6900 to 7600 ft. Approximate site of previous herb specs Leiberg 5776 July 1901 [US], Morefield 3184 Sept 1985 [RSA], Morefield 3154 Sept 1985 [ASC], Schaack 2011 Sept 1986 [ASC].

Coffee at Flagstaff and make Quality Inn reservation at Grand Canyon S. rim. Then around Flagstaff to 190 N to Grand Canyon Quality Inn (\$118).

Sunday, Sept. 21<sup>st</sup>

McDonald's breakfast and to GC. Revisit site below Buggeln campground site of BKPF 79 collected in 1999. In exact spot of 1999 but hundreds of yellowed plants to 10 inches only under rabbit brush on a raised berm in valley at about 30° and 200 ft from gravel roadway. 35° 58.7' x 111° 56.4'. Site suggested by GCNP botanical survey herb spec record.

Noted rabbit brush rather rare in this general area. Looked for more as an indicator of potato along 64 back toward Grand View lookout and on gravel road S and E to Hull Tank.

Continue E on 64 toward Cameron. PB notes abundant rabbit brush along road near Deer Tank Wash.

**BF 113.** *S. jamesii*. September 21, 2003. United States. Arizona. Coconino County. On 64 about 25 miles E of Grand Canyon S Rim visitor center just inside Kaibab National Forest boundary at pulloff where there is a steep roadcut to the NE and a creek to the SW called Deer Tank Wash. Just over fence but on road side of creek. Among rabbit brush and sage and nestled among rocks. Moist black soil. Hundreds of green and yellowed plants to 12 inches. Some dried up flowers, but no fruits. Collected tubers from several scattered patches. N36° 0.35' x W111° 48.24' and 6900 ft. This site totally new and about 9 miles from closest known site of BKPF 79 collected in 1999. Suggested by abundant rabbit brush here which was closely associated at BKPF 79 site.

Continue E on 64 to Cameron on Navajo Reservation. Gas and coffee. N on 89 and 89A to crossing of Colorado River for lunch at Marble Canyon. Then W toward Jacob Lake. Stopped at pulloff just above 6000 ft. Looked likely for potato with grass, sage. Continued to stop multiple times along 89A to Jacob Lake. Then searched around the lake of Jacob Lake and gravel road 1-2 miles to the S at Warm Spring Canyon (N36° 41.84' x W112° 13.98'). At all of these places green herbs and other typical *jamesii* habitat features and elevation were encouraging but soil usually quite dry.

Back to 67 and S toward N Rim of Grand Canyon. E on FR 213 toward Tater Spring trailhead then on FR221 for 1 ½ miles and back looking all along road. Why are several land features (Canyons, springs) called "Tater"? To N Rim visitor center and lodge. Looked along trails and

valleys near buildings until dark. Ferns and rabbit brush with more tender herbs. Some places sufficiently moist. Too high here at almost 8500 ft? Return N on 67 to gas station outside of park for coffee and snacks. Called home to find Lee Hughs (435-688-3229) had called about Mt Trumbull site, said to be reported in 1996 (not 1977 as Thorne 233). Was not able to contact him for more info. Then to Jacob Lake, Fredonia and just across UT border to Kanab. Supper at McDonalds at 9 PM then lodge at "Treasure Trail Motel" (\$65).

### Monday, Sept 22<sup>nd</sup>

Breakfast at Nedra's of Kanab (Clint Eastwood ate there). Gas and snacks. S to Fredonia Ranger Station for advice about road to Mt. Trumbull. W on 398 to Pipe Spring National Monument for maps and further advice. Back E on 398 to mile marker 24 and start of Mt Trumbull Road to the S (same road to Toroweap or also called Tuweep, a lookout point 140 miles W of the lookout at the end of 67. It is 53 miles of gravel road to the Nixon Springs Ranger station at the base of Mt. Trumbull. Being in exceptionally good condition, it took only 2 hours one way. Stopped at several likely-looking spots on the way to Mt. Trumbull site.

**BF 114.** *S. jamesii*. September 22, 2003. United States. Arizona. Mohave County. Fredonia area. From 389 to CR 109, 47 miles to CR 5 and 7 miles to near Mt Trumbull, Nixon Springs Ranger Station. At 150° from Ranger Station buildings, ~500 yards along service road. Many hundreds of plants among burned pine branches in full sun or under sage. Rich black soil in pine forest habitat. Some large to 2 ft tall or small and yellowed but some green enough for transplant collection. One open flower seen, otherwise no flowers or fruit. Collected tubers from many dispersed clusters of plants and a few transplants where available. N36° 23.15 x W113° 9.00'. 6550 ft. First germplasm collected from Mohave County. Exploration prompted by previous herb spec Thorne 233, Sept 1<sup>st</sup> 1977, [UT] and the fact that location (and to W) is named "Potato Valley" for unknown reasons.

Return to Fredonia and late lunch. Toward Jacob Lake on 89A, looking at pulloffs from 6,000 – 7500 ft. Dry, but otherwise looked likely with Ponderosas and J/P habitat. Three Navajo women selling jewelry at the scenic overlook recognized CF's Indian term for wild potato, but corrected pronunciation to *nũ-mō-si* '. Noted gravel Winter Road starting at about 6

miles from Fredonia at  $36^{\circ} 54.70' \times 112^{\circ} 25.17'$  (which also traverses the Buckskin Mts). Return to Kanab to lodge. Swim in pool.

Tuesday, Sept 23<sup>nd</sup>

Breakfast at Houston's, a restaurant and catering family that provides thousands of meals for firefighters on location. Return SE on 89A to Winter Road, gated dirt and gravel road the goes E into Buckskin Mts. Looked all along this road starting at appropriate elevation (~6000 ft with Junipers) to 18 miles from 89A ( $36^{\circ} 54.79' \times W112^{\circ} 7.84'$  at 6500 ft). Sandy Juniper habitat and in wash, sage and green grass, *Chenopodium*, other herbs, looked very appropriate. This site exploration and 89A toward Jacob Lake yesterday suggested by herb specs Jones 6063m, Sept 21, 1894 [US] and Jones 6603, Sept 20, 1894 [RSA].

Back to Fredonia, gas, car wash and ice cream lunch. Take 389 to Pipe Springs National Monument. Show staff potatoes collected at Mt Trumbull. A Navajo employee there had not heard of wild potatoes, and a Paiute employee described what appeared to be Jerusalem artichoke. Later send a letter with brochure and thanks for advice.

Toward St. George and Oak Grove campground ( $37^{\circ} 19.04' \times 113^{\circ} 27.19'$ , 6500 ft.). An 8 mile gravel road NW from Leeds, UT. This site searched only because it is close to route back to Las Vegas and appropriate elevation. The W side of this mountain was searched in 1997 by Bamberg, Martin and Pavek (Pine Valley). Scub oak and maple, very dry. Ponderosas and grass near creek, ferns and a few herbs.

Continue to Las Vegas, NV. Lodge Motel 6 (~\$40). Swim in pool.

Wednesday, Sept 24<sup>nd</sup>

Clean vehicle and pack. McDonald's breakfast. Return Toyota 4-Runner National Car rental (~\$350). Fly back to MKE and drive home.

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## EXECUTIVE SUMMARY

Background: J. Bamberg, P. Bamberg, C. Fernandez. Collection numbers (BF) continue sequentially from previous domestic US Potato Genebank collections. Since early spring, Bamberg had checked weekly precip via internet and found Mt Trumbull area receiving plenty of rainfall. Locals reported it very green as well.

Objectives: Only two sites have ever been reported in the AZ “Strip” and only one in Mohave County, so these were most important targets for germplasm. Reported sites near Flagstaff were targeted as well as ostensibly appropriate sites on the S side of the Colorado River from Kingman to Flagstaff, and along the N Rim. We sought to observe known populations for which germplasm had been previously collected, and hoped to find more populations close to the ostensibly vulnerable one (very small and localized) at Grand Canyon National Park S Rim.

Results. *Trip was quite successful* even though only 4 collections were made. The first germplasm from the Arizona Strip and Mohave county was collected at Mt Trumbull, over 70 miles from the nearest site (near the S Rim of the Grand Canyon) and the only reported potato location beyond 113° W longitude. A completely new site less than 10 miles from the single GCNP site BKPF 79 = PI 612454 was found .

Future work and ideas: More searching in the Buckskin Mts (site of a vague very old report) seems warranted, and perhaps around the areas denominated with “Tater” on the eastern side of the Kaibab range, and especially SW of Mt Trumbull on the plateau at the bend in the Colorado River across from the Hualapai reservation (e.g., Mt. Dellenbaugh 36° 6.44' x 113° 32.56', 6000-7000 ft). How is the association with rabbit brush near GCNP rationalized, and does it have a general application in the region? Radios borrowed from J. Schartner and GPS from Karen Williams of USDA/ARS/PEO Belville were very helpful, as was DeLorme’s Topo4 on laptop.